

FDN-2604



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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants : Qinyun Peng et al)

Serial No. : 09/484,749)

Filed : January 18, 2000)

Title: ASPHALT ROOFING COMPOSITE INCLUDING ADHESION
MODIFIER-TREATED GLASS FIBER MAT

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FEBRUARY 4, 2000

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

INFORMATION DISCLOSURE STATEMENT
PURSUANT TO 37 CFR 1.97 and 1.98

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In accordance with the suggested procedure of 37 CFR 1.97 and 1.98, Applicants are submitting herewith copies of all of the references identified on the enclosed list, which are considered to comprise the closest art of which the undersigned attorney, the inventors and anyone else believed to have been substantially involved in the preparation of this application are aware. Each of these references will be discussed below in a brief paragraph.

1. U.S. Serial No. 09/227,551, filed January 8, 1999 (Docket FDN-2555) discloses a silane treatment of fiber mats for improving the tear resistance of asphalt shingles in which the fiber mats are used, but does not suggest applicants instant glass fiber mat featuring an adhesion modifier which induces fiber pull-out during tear of the composite.

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2. U.S. Patent No. 5,518,586 describes a urea-formaldehyde resin modified with a water-insoluble anionic phosphate ester used as a binder in the preparation of glass fiber mats using a hydroxyethylcellulose white water system.
3. U.S. Patent No. 5,744,229 describes a glass fiber mat made with polymer-reacted asphalt binder.
4. U.S. Patent No. 5,296,025 describes a process and device for preparing an asphalt mix.
5. U.S. Patent No. 4,430,465 describes an asphalt composition coated onto a fibrous mat.
6. U.S. Patent No. 4,752,632 relates to asphaltic elastomers comprising an asphaltic phase and a polyisocyanate prepolymer.
7. U.S. Patent No. 5,851,933 describes methods for making non-woven fibrous mats comprising glass fiber bonded together with a dried and cured mixture of aqueous urea formaldehyde resin and a self crosslinking copolymer of vinyl acrylic or polyvinyl acetate.
8. U.S. Patent No. 5,334,648 describes emulsion copolymers for use as a urea formaldehyde resin modifier.
9. U.S. Patent No. 4,917,764 describes a glass fiber mat having improved strength featuring a carboxylated styrene-butadiene latex.

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10. U.S. Patent No. 5,116,890 describes a non-formaldehyde latex.
11. U.S. Patent No. 4,681,798 describes a fibrous mat facer with improved strike-through resistance.
12. U.S. Patent No. 5,804,254 describes a method for flexibilizing cured urea formaldehyde resin-bound glass fiber non-wovens.
13. U.S. Patent No. 5,503,920 describes a process for improving parting strength of fiberglass insulation.
14. U.S. Patent No. 5,403,654 describes a chopped strand mat and thermoplastic sheet.
15. U.S. Patent No. 5,032,431 describes a glass fiber insulation binder.
16. U.S. Patent No. 4,931,318 describes silica as a blocking agent for fiberglass sizing.
17. U.S. Patent No. 4,749,614 describes a fibrous substrate coated with a hydrolyzed amino silane useful for preparing prepreg polyepoxide substrates.
18. U.S. Patent No. 4,596,737 describes a process for treating a glass fiber mat comprising contacting the surface of a cured mass of glass fibers with a latex polymer.

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19. U.S. Patent No. 4,500,600 describes glass fibers coated with a size composition comprising gamma-aminopropyltriethoxysilane and an alkoxysilane.

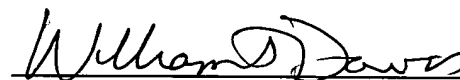
20. U.S. Patent No. 4,294,879 describes a fibrous insulation mat with an anti-punking binder system.

21. PCT WO 99/13154 describes a structural mat matrix comprising a substrate of fiberglass fibers and wood pulp and a binder which consists of urea formaldehyde and acrylic copolymer.

It is respectfully urged that none of the references suggest applicants' glass fiber mat for use in roofing composites comprising about 68 to 90% by weight fibers, about 10 to 32% organic resin binder and about 0.001 to 20% of an adhesion modifier which induces fiber pull-out during tear of the composite and provides improved composite tear strength; methods for preparing such glass fiber mat; or roofing composites featuring such glass fiber mats. Notice of allowance or early action to that end is earnestly solicited.

Respectfully submitted,

Date February 4, 2000



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